

I Claim

1. A traction assembly comprising a wheel with a wheel rotational axis and traction means comprising an electric motor which, when in operation, exerts
5 torque on the wheel, wherein a traction ratio, being an arm of the torque divided by a radius of the wheel, is larger than 0.57.

2. The traction assembly according to claim 1, wherein the traction ratio is
10 larger than 0.65.

3. The traction assembly according to claim 2, wherein the traction ratio is larger than 0.7.

4. The traction assembly according to claim 3, wherein the traction ratio is
15 smaller than 1.0.

5. The traction assembly according to claim 1, wherein the traction means comprise an electric motor.

20 6. The traction assembly according to claim 5, wherein the electric motor is a synchronous motor provided with permanent magnets.

7. The traction assembly according to claims 5 or 6, wherein the electric motor comprises a stator provided with windings which with respect to a
25 vehicle are statically arranged in the vehicle and a rotor provided with permanent magnets.

8. The traction assembly according to claim 7, comprising operating and control means for the operation of the electric motor within the stator.
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9. The traction assembly according to claim 8, wherein the rotor is arranged

coaxially around the stator and connected to a drive shaft of the electric motor.

10. The traction assembly according to claim 1, wherein the traction means
5 are positioned outside of the wheel and mounted adjacent to the wheel.

11. The traction assembly according to claim 1, wherein the traction means
comprise a drive shaft and the wheel comprises a wheel shaft, and the drive
shaft and the wheel shaft are situated in line, in each other's extension.
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12. The traction assembly according to claim 1, wherein the traction means
comprise a drive shaft and the wheel comprises a wheel shaft, wherein the
drive shaft directly drives the wheel shaft.

13. The traction assembly according to claim 12, wherein the drive shaft is
the wheel shaft.
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14. The traction assembly according to claim 7, wherein the wheel comprises
a wheel shaft and the permanent magnets are connected to the wheel shaft.
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15. The traction assembly according to claim 1 for a vehicle with a vehicle
mass, wherein the wheel comprises a wheel shaft and the traction means
comprise an electric motor comprising a driving shaft directly driving the
wheel shaft, and wherein the electric motor is adapted to provide a maximum
nominal or rated torque of at least 0.3 Nm/kg of vehicle mass.
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16. The traction assembly according to claim 1 for a vehicle with a vehicle
mass, wherein the wheel comprises a wheel shaft and the traction means
comprise an electric motor comprising a driving shaft directly driving the
wheel shaft, and wherein the electric motor is adapted to provide a maximum
nominal or rated torque of at least 0.4 Nm/kg of vehicle mass.
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17. A traction assembly for a vehicle, comprising a wheel provided with a wheel shaft, and an electric motor comprising a drive shaft, a rotor and a stator, wherein the drive shaft is connected to the wheel shaft for direct traction, the electric motor is arranged adjacent to the wheel, the electric motor exerts, when in operation, torque on the wheel shaft, with a traction ratio, being the arm of the torque divided by a radius of the wheel, larger than 0.57, and the electric motor is adapted to provide a maximum nominal or rated torque of at least 0.4 Nm per kg of vehicle mass.

18. The traction assembly according to claim 17, wherein the wheel shaft and the drive shaft are arranged in line.

19. An electromotor comprising a housing provided with:

- a stator connected to the housing and comprising at least two groups of physically separated windings;
- a rotor, coaxially and rotatably mounted within the stator and comprising permanent magnets, wherein the rotor is stationary with respect to an axis of rotation of the rotor during operation of the electromotor;
- control means for controlling the electric current in the windings;
- measuring means for measuring the current and the phase thereof through the windings and the angular position of the rotor with respect to the stator;
- operating means connected to the control means and the measuring means for operating the electromotor, and
- data communication means, connected to the operating means, for communicating data to outside the housing.

20. The electromotor according to claim 19, wherein the measuring means comprise at least two means for measuring a magnetic field, arranged

between two permanent magnets.

21. The electromotor according to claim 19 or 20, wherein both axial ends of the rotor comprise attachment means, in particular for a driving shaft.

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22. The electromotor according to claim 21, wherein one of the attachment means comprises a bush in which a shaft end can be operationally connected to the rotor.

10 23. The electromotor according to any one of the preceding claims 19-22, wherein the operating means have a so-called master and slave setting, wherein the operating means can be converted from a so-called master into slave setting, and vice versa, influenced by either the demand for power, the speed of rotation of the rotor or via the data communication means.

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24. Electromotor according to any one of the preceding claims, wherein the other attachment end is provided with a homokinete

20 25. Assembly of at least two electromotors according to claim 23, wherein one electromotor is set as so-called master and the other one or ones as so-called slave, and wherein the data communication means are connected one to the other or others to each exchange data with each other.

25 26. Vehicle provided with a wheel having a wheel shaft having an axis of rotation and a electromotor provided with a rotor having an electromotor axis of rotation, wherein the electromotor is placed in the vehicle with the electromotor axis of rotation mounted above the axis of rotation of the wheel.

30 27. Vehicle according to claim 26, wherein the electromotor axis of rotation is substantially parallel to the axis of rotation of the wheel.

28. Vehicle according to claim 26, wherein the rotor is connected to the wheel shaft by means of one or more homokinets.

29. The electromotor according to claim 19 wherein the rotor is enclosed
5 completely within the housing.